Daily Diary Report by Bid Item

Contract No.: **04-0120F4**
Diary #: **743** **Const Calendar Day:** 198 **Date:** **19-Dec-2012** **Wednesday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Intermittent
Shift Hours: 07:00 am 03:30 pm **Break:** 00:30 **Over Time:** 00:00
Federal ID:
Location:
Reviewer: **Schmitt, Alex** **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** 50 - 60 **12 PM** 50 - 60 **4PM** 50 - 60
Precipitation 0.00" **Condition** Partly Overcast

Working Day ☐ If no, explain:

Diary: Dispute ☐

Work description.

- After testing bolts for the handrope and stanchion posts myself, Alex Schmitt, and John Lyons went to assess if any modifications could be made to the Extensometer to measure the top cable band bolts. To reiterate the messenger cable obstructs the Extensometer pins from engaging the dimple on the cable band bolt. It should be noted that the Extensometer can be positioned on the extreme uphill and downhill top bolts to measure elongation, however the angle is not normal to the cable.

It was determined that the current Extensometer couldn't be modified to work around the messenger cable. Instead the recommendation for future measurements of the top bolts is to possibly have another Extensometer fabricated to perform this task. Cable band bolt elongation measurements will be taken by OSC personnel until the bridge opens however Structures Maintenance and Investigations (SM&I) will need to use the Extensometer once the bridge opens to check the bolt force when the bridge is subjected to live loads.

04-0120F4 **Bid Item:** **067** **C-PWS-HDR.067** **Install Hand Rope**
AMERICAN BRIDGE/FLUOR, A JV

Labor

Trade	Class	Name	RT Hrs	OT Hrs	DT Hrs	Total	Remarks	Dispute
Contractor:	AMERICAN BRIDGE/FLUOR, A JV							
Ironworker	APP	RYAN NASH	8.00	0.00	0.00	8.00		☐
Ironworker	APP	SERGIO GARCIA	8.00	0.00	0.00	8.00		☐
Ironworker	APP	MARIO MARQUEZ	8.00	0.00	0.00	8.00		☐
Ironworker	JNM	CARLOS BUSTAMANTE	8.00	0.00	0.00	8.00		☐
Ironworker	APP	JAVIER GARCIA	8.00	0.00	0.00	8.00		☐
Ironworker	JNM	RIGOVERTO GARCIA	8.00	0.00	0.00	8.00		☐
Ironworker	FOR	OBRA PAULK	8.00	0.00	0.00	8.00		☐

Diary: Dispute ☐

Work description. **067** C-PWS-HDR.067

- Began the day checking handrope clamp and stanchion post channel cross brace bolts with Smith Emery technician Brien Connelly. To reiterate all of the bolts being tested for torque are all being done outside of the 48hr requirement.

Channel bolts were tested at the following panel points 8N, 8S, 40N, 40S, 44N, & 102N where at least 3 bolts were tested at each location. A total of 8 bolts were tested at panel point 44N. ABF engineer Ankur Singh gave Smith Emery a Rocap Set number of DHGM240011 for the bolts installed in the locations

above. The inspection torque is listed at 610N-m for these bolts and all that were tested passed the torque wrench test. However it should be reiterated that these tests were done after 48hrs, see previous diaries on the dates when the bolt tensioning was done. It should be noted that the bolts at panel point 102S were not tested and considered to be over-torqued due to the 1/2 turn instead of 1/3 turn match marks made on the connection. Also it should be noted that the channel bracket wasn't installed at panel point 44S.

The handrope clamp bolts were tested on both sidespans today to an inspection torque value of 302N-m where these bolts are to be torqued to a 1/3 turn. The following bolts were tested along each cable span:

Panel Point	Bolt	Inboard/Outboard
34S	Uphill	Inboard
30S	Uphill, Downhill	Inboard
30S	Downhill	Outboard
24S	Uphill	Inboard
22S	Downhill	Inboard
22S	Uphill	Outboard
20S	Uphill	Inboard
16S	Uphill	Outboard
12S	Uphill, Downhill*	Outboard
12S	Uphill, Downhill*	Inboard
38N	Uphill, Downhill	Inboard
32N	Downhill	Outboard
28N	Uphill, Downhill	Inboard
22N	Uphill*, Downhill*	Inboard
20N	Downhill	Outboard
20N	Uphill	Inboard
14N	Uphill	Outboard
12N	Uphill, Downhill	Outboard
12N	Uphill, Downhill*	Inboard

The * denotes that the bolt didn't pass the inspection torque test. It should be noted that all of the bolts tested on the South Sidespan were questionable since the torque wrench had to be turned an excessive amount to pass the test. This observation corresponds to the theory that it is easier to pass torque for bolts over the 48hr testing requirement. It should be noted that ABF engineer Ankur Singh has done a poor job of scheduling bolt testing and an ironworker wasn't provided for todays testing where bolts that didn't pass could have been corrected on the spot.

- After the lunch break the ABF ironworker crew under foreman Obra Paulk proceeded to tension the North Mainspan handrope cables via the turnbuckles. I observed the operation from panel point 102N as ABF engineer Ankur Singh was also at this end with the tension gauge. As in previous handrope tensioning operations it took several iterations to balance the tension in the cables from both ends of the span. The following tensions were observed with the ABF gauge at the top of the handrope cables:

	// Anchorage at WPP104 //			
Handrope - Side	Main	Anchorage	Average Tension	% of Design (45000)
Inboard	44900	45100	45000	100.0
Outboard	44900	45400	45150	100.3

Obra was at the top of the span monitoring the tension gauge. Sometime before the end of this operation I would like to perform a final check on tension for every single handrope and messenger cable.

- Before the end of the 8hr shift Rigo and Javier used a electrical impact wrench to tighten the handrope clamp bolts from panel points WPP100 to WPP82. The electrical impact wrench was used to snug the

bolts then apply a 1/3 turn. Match marks were done on all of the bolts before the required torque was applied. I visually inspected that the electrical impact wrench bit made a 1/3 turn on all of the bolts. The rest of the crew used a torque wrench to verify the 225ft-lb torque in the Crosby clip U bolts on the messenger cable angle bracket along this span.